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## PATENT ABSTRACTS OF JAPAN

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(71)Applicant : SONY CORP

(22)Date of filing : 13.12.1993

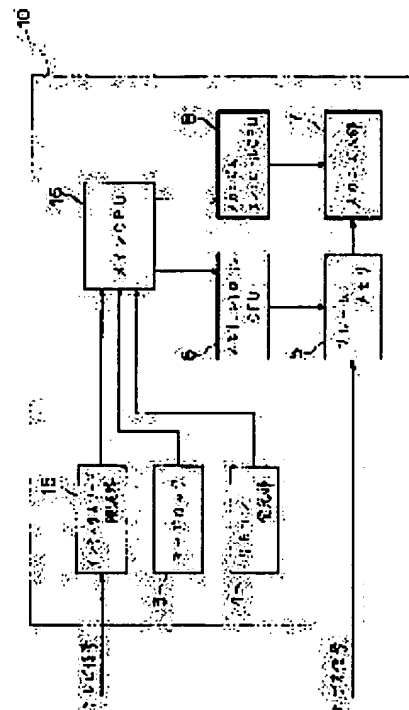
(72)Inventor : WATANABE KATSUHIKO

## (54) VIDEO PRINTER AND ITS AUTOMATIC PRINT METHOD

## (57)Abstract:

**PURPOSE:** To obtain properly only a required picture in the video printer without viewing from the first to the end of a television program.

**CONSTITUTION:** An index code detector 15 detects an index code superimposed on a television signal. When the index code is detected, a main CPU 16 controls that a picture on which the index code is superimposed is stored in a frame memory 5 and allows a mechanism section 7 to print out the picture. Thus, only a required picture is properly obtained without viewing from the start to the end of a television program.



## LEGAL STATUS

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of rejection]

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CLAIMS

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[Claim(s)]

[Claim 1] In the video printer equipped with the frame memory which records an image, a printing means to print an image, and the control means which controls printing of an image to said printing means while controlling record to said frame memory of the inputted image It has an in deck code extract means to extract the index code on which the inputted TV signal was overlapped. Said control means The video printer characterized by performing control which performs control which records the image with which it was superimposed on this in deck code on said frame memory, and which is printed with said both printing means when an index code is extracted by said in deck code extract means.

[Claim 2] The 1st process in which it judges whether the index code on which the inputted TV signal was overlapped was detected, The 2nd process in which it judges whether the image with which it was superimposed on this index code when it was judged that said index code was detected in said 1st process was recorded on the frame memory, The 3rd process in which it judges whether printing activation is possible when the image with which it was superimposed on said index code in said 2nd process is judged to have been recorded on the frame memory, The 4th process which outputs the command for printing the image recorded on said frame memory when it was judged in said 3rd process that printing activation is possible, The 5th process which outputs the command for making the image with which it was superimposed on said index code when the image with which it was superimposed on said index code in said 2nd process was judged not to be recorded on a frame memory record on said frame memory, The automatic printing approach of the video printer characterized by printing the image with which it was alike with the image and was superimposed more on the index code.

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DETAILED DESCRIPTION

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[Detailed Description of the Invention]

[0001]

[Industrial Application] This invention relates to the video printer which prints the image copied out on television, and its automatic printing approach.

[0002]

[Description of the Prior Art] When printing an image with a video printer, he is trying to choose an image to print while a user surely looks at the image of a video cassette recorder (VCR) or television conventionally. In addition, a video cassette recorder is the same as that of a video tape recorder (VTR).

[0003] Drawing 4 is the block diagram showing the outline configuration of the conventional video printer 1. In this drawing, 2 is Main CPU which controls each part of equipment, and RAM used as ROM and the work area where the program for controlling CPU was written in is prepared in that interior. A key block for a user to give instruction code to Main CPU 2, as for 3 and 4 are remote control receive sections, receive the command code transmitted from the infrared type remote commander which is not illustrated, and output it to Main CPU 2.

[0004] The frame memory on which 5 records an image, and 6 are the memory control CPU for controlling a frame memory 5, and control a frame memory 5 by the bottom of control of Main CPU 2. RAM used as ROM and the work area where the program for controlling a frame memory 5 was written in this memory control CPU 6 is prepared. 7 is the mechanism section which performs a video print, and prints out the image recorded on the frame memory 5. 8 is the mechanism control CPU for controlling the mechanism section 7, and controls the mechanism section 7 by the bottom of control of Main CPU 2. RAM used as ROM and the work area where the program for controlling the mechanism section 7 was written in this mechanism control CPU 8 is prepared.

[0005] Thus, in the constituted video printer 1, if a user gives instruction code to Main CPU 2 using a key block 3 or an infrared type remote commander, Main CPU 2 interprets the instruction code, and if the contents are record of an image, it will output the instruction for recording an image on a frame memory 5 to the memory control CPU 6. On the other hand, if the contents of the above-mentioned instruction code are printing, the instruction for printing an image to the mechanism control CPU 8 will be outputted.

[0006]

[Problem(s) to be Solved by the Invention] By the way, if it was in the conventional video printer mentioned above, there was a trouble that it could not separate from the spot until it obtained the required image from being forced what is seen from the beginning of a TV program to the last, in order to obtain a required image (for example, a cook scene where an ingredient is displayed in a group), in a TV program.

[0007] Then, this invention aims at offering the video printer which can obtain only a required image suitably, and its automatic printing approach, without seeing from the beginning of a TV program to the last.

[0008]

[Means for Solving the Problem] The video printer by invention according to claim 1 for the above-mentioned purpose achievement In the video printer equipped with the frame memory which records an image, a printing means to print an image, and the control means which controls printing of an image to said printing means while controlling record to said frame memory of the inputted image It has an in deck code extract means to extract the index code on which the inputted TV signal was overlapped. Said control means When an index code is extracted by said in deck code extract means, it is characterized by performing control which performs control which records the image with which it was superimposed on this in deck code on said frame memory and which is printed with said both printing means.

[0009] Moreover, the automatic printing approach of the video printer by invention according to claim 2 The 1st process in which it judges whether the index code on which the inputted TV signal was overlapped was detected, The 2nd process in which it judges whether the image with which it was superimposed on this index code when it was judged that said index code was detected in said 1st process was recorded on the frame memory, The 3rd process in which it judges whether printing activation is possible when the image with which it was superimposed on said index code in said 2nd process is judged to have been recorded on the frame memory, The 4th process which outputs the command for printing the image recorded on said frame memory when it was judged in said 3rd process that printing activation is possible, The 5th process which outputs the command for making the image with which it was superimposed on said index code when the image with which it was superimposed on said index code in said 2nd process was judged not to be recorded on a frame memory record on said frame memory, It is characterized by printing the image with which it was alike with the image and was superimposed more on the index code.

[0010]

[Function] In this invention, an extract of the in deck code on which the TV signal was overlapped prints the image with which it was superimposed on the in deck code. Therefore, only a required image can be obtained suitably, without seeing from the beginning of a TV program to the last.

[0011]

[Example] Hereafter, this invention is explained based on a drawing. Drawing 1 is the perspective view showing the busy condition of one example of the video printer of this invention. In this drawing, a video printer 10 inputs the video signal outputted from television 11, and the TV signal (RF signal) which was outputted from the antenna 12 and distributed with the distributor 13, respectively. Here, corresponding to the image which a user needs for the TV signal transmitted from a broadcasting station beforehand, it is superimposed on the index code. A video printer 10 will print the image corresponding to the index code, if the index code on which the inputted TV signal was overlapped is extracted.

[0012] Drawing 2 is the block diagram showing the outline configuration of a video printer 10. In addition, the part which is common in drawing 4 mentioned above is given with the same sign, and the explanation is omitted. In this drawing, 15 is an index code wave detector and detects the index code on a TV signal. The detected index code is inputted into Main CPU 16. Main CPU 16 gives the instruction printed while recording the image with which it was superimposed on the index code to the memory control CPU 6 and the mechanism control CPU 8 besides performing the same processing as conventional Main CPU 2 when an index code was detected from the index code wave detector 15. In addition, above-mentioned Main CPU 16 corresponds to a control means.

[0013] Automatic printing processing is explained in such a configuration, referring to the flow chart shown in drawing 3. In drawing 3, if it judges that it judged first whether the index code was detected at step S10, and detected, no which recorded the video signal to the frame memory 5 for performing automatic printing at step S12 will be judged. If it judges that the video signal to a frame memory 5 is not recorded in this judgment, after giving a record instruction to the memory control CPU 6 at step S14, no which recorded the video signal to a frame memory 5 will be again judged through step S10.

[0014] If it judges that the video signal to a frame memory 5 was recorded, it will judge whether it can print at step S16. That is, it judges whether there is any print sheet or there is any ink ribbon. Decision of that it can print gives a printing instruction to the mechanism control CPU 8 at step S18. The image with which it was superimposed on the index code is recorded on a frame memory 5 by this, and the image concerned is further printed in the mechanism section 7. Thus, the image with which it was superimposed on the index code is printed automatically.

[0015] Although the TV signal transmitted from a broadcasting station was incorporated in the application, above-mentioned example, an image needed cannot be automatically printed with the image recorded by the video cassette recorder. Then, when an index code wave detector is formed also in a video cassette recorder side and an index code is detected, the index code is recorded on a video sub-code (VSC). And when a video cassette recorder plays the tape on which the index code was recorded on the video sub-code, the command (printing command) which LANC which controls this video cassette recorder, video printer, etc. generated based on the information on a video sub-code is supplied to a video printer 10. Thereby, a video printer 10 prints the image specified by a command. In addition, although there are an object for colors and an object for monochrome in a video printer, it cannot be overemphasized that the above-mentioned example can apply these either.

[0016]

[Effect of the Invention] since the image with which it was superimposed on the index code was printed when the index code on which the TV signal was overlapped was extracted according to this invention — the last \*\*\*\*\* from the beginning of a TV program — there are nothings and only a required image can be obtained suitably.

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TECHNICAL FIELD

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PRIOR ART

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EFFECT OF THE INVENTION

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TECHNICAL PROBLEM

[Problem(s) to be Solved by the Invention] By the way, if it was in the conventional video printer mentioned above, there was a trouble that it could not separate from the spot until it obtained the required image from being forced what is seen from the beginning of a TV program to the last, in order to obtain a required image (for example, a cook scene where an ingredient is displayed in a group), in a TV program.

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MEANS

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**OPERATION**

---

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EXAMPLE

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DESCRIPTION OF DRAWINGS

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[Brief Description of the Drawings]

[Drawing 1] It is the perspective view showing the busy condition of one example of the video printer concerning this invention.

[Drawing 2] It is the block diagram of the video printer of this example.

[Drawing 3] It is the flow chart of automatic printing processing of the video printer of this example.

[Drawing 4] It is the block diagram of the conventional video printer.

[Description of Notations]

5 Frame Memory

6 Memory Control CPU

7 Mechanism Section (Printing Means)

8 Mechanism Control CPU

15 Index Wave Detector (Index Code Extract Means)

16 Main CPU (Control Means)

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[Translation done.]

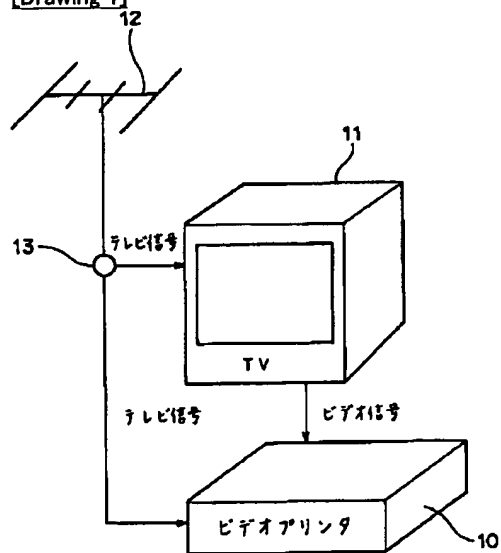
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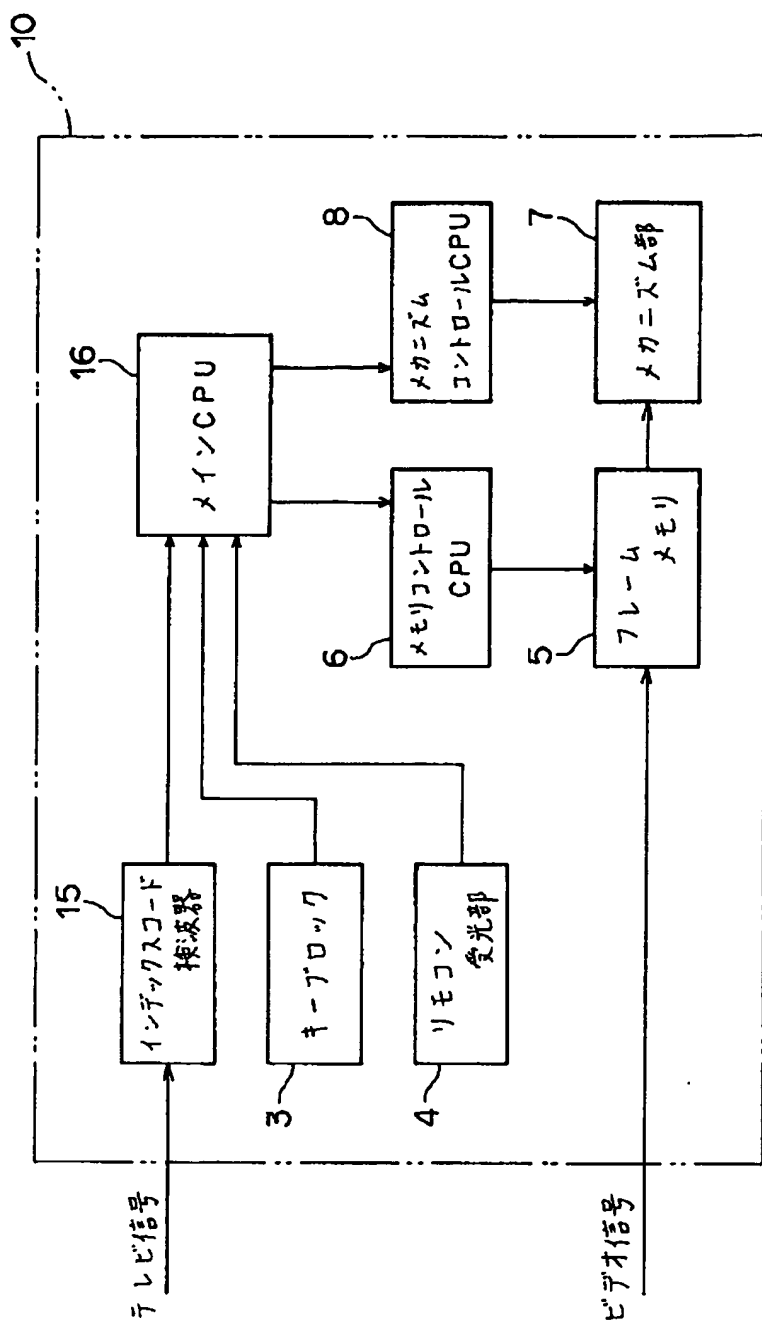
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## DRAWINGS

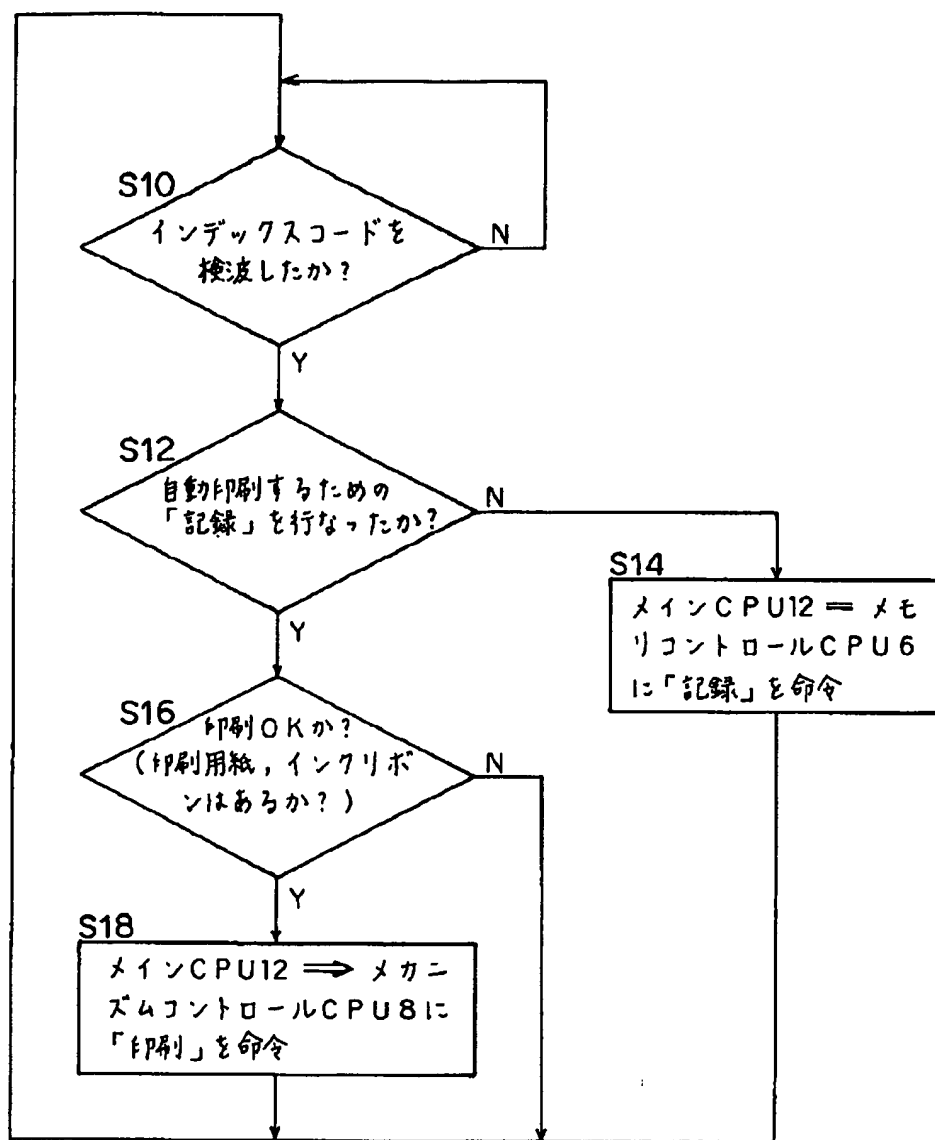
[Drawing 1]



[Drawing 2]

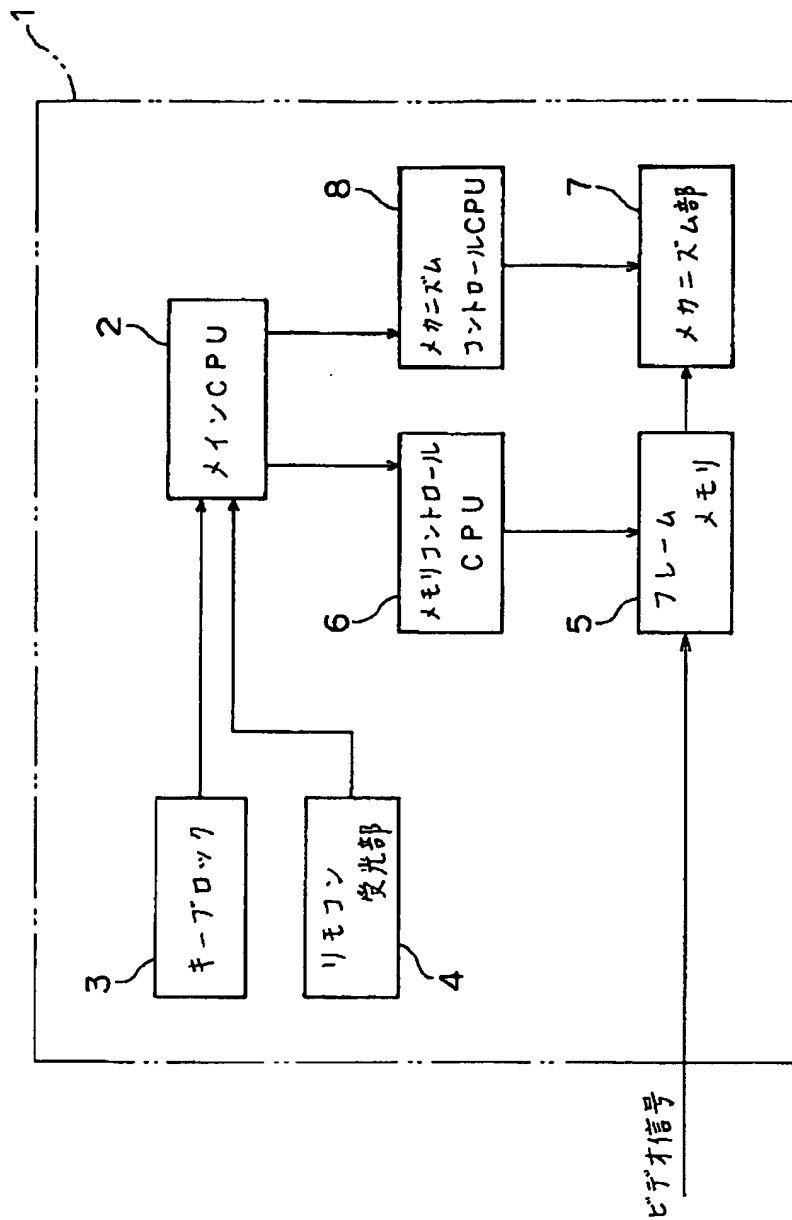


[Drawing 3]



[Drawing 4]





[Translation done.]

(11)特許出願公開番号

特開平7-170473

(43)公開日 平成7年(1995)7月4日

(51)Int.Cl. <sup>8</sup>	識別記号	庁内整理番号	F I	技術表示箇所
H 0 4 N 5/76	E			
B 4 1 J 5/30	Z			
H 0 4 N 1/21				
5/91				
			H 0 4 N 5/ 91	H
			審査請求 未請求 請求項の数2	FD (全 7 頁)

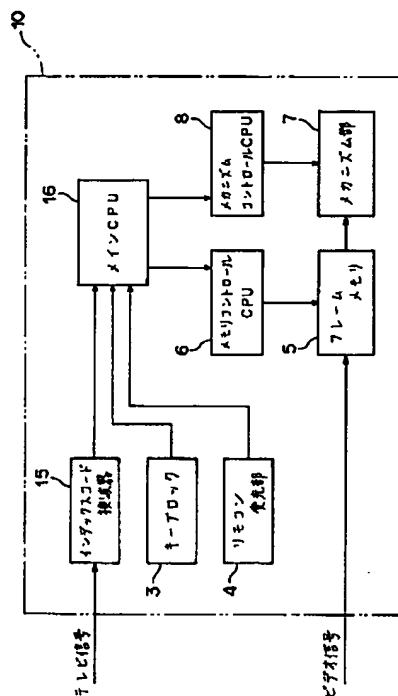
(21)出願番号	特願平5-341954	(71)出願人	000002185 ソニー株式会社 東京都品川区北品川6丁目7番35号
(22)出願日	平成5年(1993)12月13日	(72)発明者	渡▲辺▼ 克比古 東京都品川区北品川6丁目7番35号 ソニー株式会社内
		(74)代理人	弁理士 高橋 光男

(54)【発明の名称】 ビデオプリンタ及びその自動印刷方法

(57) 【要約】

【目的】 ビデオプリンタにおいて、テレビ番組の最初から最後まで見ることなく、必要な画像のみを適宜得ることができるようにする。

【構成】 インデックスコード検波器 15 にてテレビ信号に重畳されたインデックスコードを検波する。そして、インデックスコードが検波されたときに、メインCPU 16 が、該インデックスコードが重畳された画像をフレームメモリ 5 に記録する制御を行う共にメカニズム部 7 にて印刷する制御を行う。これにより、テレビ番組の最初から最後まで見ることなく、必要な画像のみを適宜得ることが可能になる。



## 【特許請求の範囲】

【請求項1】 画像を記録するフレームメモリと、  
画像を印刷する印刷手段と、  
入力した画像の前記フレームメモリへの記録を制御する  
と共に前記印刷手段に対して画像の印刷を制御する制御  
手段と、

を備えたビデオプリンタにおいて、  
入力したテレビ信号に重畳されたインデックスコードを  
抽出するインデックコード抽出手段を有し、  
前記制御手段は、前記インデックコード抽出手段により  
インデックスコードが抽出されたときに、該インデック  
コードが重畳された画像を前記フレームメモリに記録す  
る制御を行うと共に前記印刷手段にて印刷する制御を行  
うことを特徴とするビデオプリンタ。

【請求項2】 入力したテレビ信号に重畳されたインデ  
ックスコードを検出したか否かの判定を行う第1の過  
程、

前記第1の過程において前記インデックスコードが検波  
されたと判断された場合に該インデックスコードが重畳  
された画像がフレームメモリに記録されたか否かの判定  
を行う第2の過程、

前記第2の過程において前記インデックスコードが重畳  
された画像がフレームメモリに記録されたと判断された  
場合に印刷実行可能か否かの判定を行う第3の過程、

前記第3の過程において印刷実行可能と判断された場合  
に前記フレームメモリに記録された画像を印刷するため  
の指令を出力する第4の過程、

前記第2の過程において前記インデックスコードが重畳  
された画像がフレームメモリに記録されていないと判断  
された場合に前記インデックスコードが重畳された画像  
を前記フレームメモリに記録させるための指令を出力す  
る第5の過程、によりインデックスコードが重畳された  
画像の印刷を行うことを特徴とするビデオプリンタの自  
動印刷方法。

## 【発明の詳細な説明】

## 【0001】

【産業上の利用分野】 本発明は、例えばテレビに写し出  
された映像を印刷するビデオプリンタ及びその自動印刷  
方法に関する。

## 【0002】

【従来の技術】 従来より、ビデオプリンタで映像を印刷  
するときには、必ずユーザがビデオカセットレコーダ  
(VCR)、もしくはテレビの映像を見ながら印刷した  
い画像を選択するようにしている。なお、ビデオカセッ  
トレコーダはビデオテープレコーダ(VTR)と同様の  
ものである。

【0003】 図4は従来のビデオプリンタ1の概略構成  
を示すブロック図である。この図において、2は装置各  
部を制御するメインCPUであり、その内部にはCPU  
を制御するためのプログラムが書き込まれたROMおよ

びワークエリアとして使用するRAMが設けられてい  
る。3はユーザがメインCPU2に命令コードを与える  
ためのキーブロック、4はリモコン受信部であり、図示  
せぬ赤外線式リモートコマンドより送信される指令コー  
ドを受信し、メインCPU2に出力する。

【0004】 5は画像を記録するフレームメモリ、6は  
フレームメモリ5を制御するためのメモリコントロール  
CPUであり、メインCPU2の制御下でフレームメモ  
リ5の制御を行う。このメモリコントロールCPU6に  
はフレームメモリ5の制御を行うためのプログラムが書  
き込まれたROMおよびワークエリアとして使用するR  
AMが設けられている。7はビデオプリントを行うメカ  
ニズム部であり、フレームメモリ5に記録された画像を  
プリントアウトする。8はメカニズム部7を制御するた  
めのメカニズムコントロールCPUであり、メインCP  
U2の制御下でメカニズム部7の制御を行う。このメカ  
ニズムコントロールCPU8にはメカニズム部7の制  
御を行うためのプログラムが書き込まれたROMおよびワ  
ークエリアとして使用するRAMが設けられている。

【0005】 このように構成されたビデオプリンタ1に  
おいて、ユーザがキーブロック3または赤外線式リモ  
ートコマンドを使用して命令コードをメインCPU2に  
与えると、メインCPU2はその命令コードを解釈し、  
その内容が画像の記録であれば、メモリコントロールC  
PU6に対して画像をフレームメモリ5に記録するため  
の命令を出力する。他方、上記命令コードの内容が印刷  
であれば、メカニズムコントロールCPU8に対して画  
像を印刷するための命令を出力する。

## 【0006】

【発明が解決しようとする課題】 ところで、上述した従  
来のビデオプリンタにあっては、テレビ番組のなかで必  
要な画像(例えば料理番組では材料が表示される場面)  
を得るためにテレビ番組の最初から最後まで見ることを  
強要されることから、必要な画像を得るまではその場か  
ら離れることができないという問題点があった。

【0007】 そこで本発明は、テレビ番組の最初から最  
後まで見ることなく、必要な画像のみを適宜得ることが  
できるビデオプリンタ及びその自動印刷方法を提供する  
ことを目的としている。

## 【0008】

【課題を解決するための手段】 上記目的達成のため請求  
項1記載の発明によるビデオプリンタは、画像を記録す  
るフレームメモリと、画像を印刷する印刷手段と、入力  
した画像の前記フレームメモリへの記録を制御すると共  
に前記印刷手段に対して画像の印刷を制御する制御手段  
とを備えたビデオプリンタにおいて、入力したテレビ信  
号に重畳されたインデックスコードを抽出するインデッ  
クコード抽出手段を有し、前記制御手段は、前記インデ  
ックコード抽出手段によりインデックスコードが抽出さ  
れたときに、該インデックコードが重畳された画像を前

記フレームメモリに記録する制御を行う共に前記印刷手段にて印刷する制御を行うことを特徴とする。

【0009】また、請求項2記載の発明によるビデオプリンタの自動印刷方法は、入力したテレビ信号に重畳されたインデックスコードを検波したか否かの判定を行う第1の過程、前記第1の過程において前記インデックスコードが検波されたと判断された場合に該インデックスコードが重畳された画像がフレームメモリに記録されたか否かの判定を行う第2の過程、前記第2の過程において前記インデックスコードが重畳された画像がフレームメモリに記録されたと判断された場合に印刷実行可能か否かの判定を行う第3の過程、前記第3の過程において印刷実行可能と判断された場合に前記フレームメモリに記録された画像を印刷するための指令を出力する第4の過程、前記第2の過程において前記インデックスコードが重畳された画像がフレームメモリに記録されていないと判断された場合に前記インデックスコードが重畳された画像を前記フレームメモリに記録させるための指令を出力する第5の過程、によりインデックスコードが重畳された画像の印刷を行うことを特徴とする。

【0010】

【作用】本発明では、テレビ信号に重畳されたインデックスコードを抽出すると、そのインデックスコードが重畳された画像の印刷を行う。したがって、テレビ番組の最初から最後まで見ることなく、必要な画像のみを適宜得ることができる。

【0011】

【実施例】以下、本発明を図面に基づいて説明する。図1は本発明のビデオプリンタの一実施例の使用状態を示す斜視図である。この図において、ビデオプリンタ10は、テレビ11より出力されるビデオ信号と、アンテナ12より出力され、分配器13にて分配されたテレビ信号(RF信号)を、それぞれ入力する。ここで、放送局より送信されるテレビ信号には、予めユーザが必要とする画像に対応してインデックスコードが重畳されている。ビデオプリンタ10は、入力したテレビ信号に重畳されたインデックスコードを抽出すると、そのインデックスコードに対応する画像を印刷する。

【0012】図2はビデオプリンタ10の概略構成を示すブロック図である。なお、前述した図4と共通する部分には同一の符号と付してその説明を省略する。この図において、15はインデックスコード検波器であり、テレビ信号上のインデックスコードを検波する。検波されたインデックスコードはメインCPU16に入力される。メインCPU16は、従来のメインCPU2と同様の処理を行う以外に、インデックスコード検波器15よりインデックスコードが検波されたときに、メモリコントロールCPU6およびメカニズムコントロールCPU8に対して、インデックスコードが重畳された画像を記録すると共に印刷する命令を与える。なお、上記メイン

CPU16は制御手段に対応する。

【0013】このような構成において、図3に示すフローチャートを参照しながら自動印刷処理について説明する。図3において、まず、ステップS10でインデックスコードを検波したか否かの判定を行い、検波したと判断すると、ステップS12で自動印刷を行うためのフレームメモリ5へのビデオ信号の記録を行った否かの判定を行う。この判定においてフレームメモリ5へのビデオ信号の記録を行っていないと判断すると、ステップS14でメモリコントロールCPU6に対して記録命令を与えた後、再度、ステップS10を介して、フレームメモリ5へのビデオ信号の記録を行った否かの判定を行う。

【0014】フレームメモリ5へのビデオ信号の記録を行ったと判断すると、ステップS16で印刷が可能であるか否かの判断を行う。すなわち、印刷用紙があるか、インクリボンがあるか等の判断を行う。印刷が可能であると判断すると、ステップS18でメカニズムコントロールCPU8に対して印刷命令を与える。これにより、インデックスコードが重畳された画像がフレームメモリ5に記録され、さらに当該画像がメカニズム部7にて印刷される。このように、インデックスコードが重畳された画像が自動的に印刷される。

【0015】応用例。上記実施例では、放送局より送信されてくるテレビ信号を取り込むものであったが、ビデオカセットレコーダで記録された映像では、欲しい画像を自動的に印刷することはできない。そこで、ビデオカセットレコーダ側にもインデックスコード検波器を設け、インデックスコードを検波したときに、そのインデックスコードをビデオサブコード(VSC)上に記録する。そして、ビデオサブコード上にインデックスコードが記録されたテープを、ビデオカセットレコーダが再生したときに、このビデオカセットレコーダとビデオプリンタ等を制御するLANCがビデオサブコード上の情報に基づいて生成したコマンド(印刷指令)をビデオプリンタ10に供給する。これにより、ビデオプリンタ10はコマンドが指定する画像を印刷する。なお、ビデオプリンタには、カラー用とモノクロ用とがあるが、上記実施例はこれらのいずれでも適用できることは言うまでもない。

【0016】

【発明の効果】本発明によれば、テレビ信号に重畳されたインデックスコードを抽出したときに、そのインデックスコードが重畳された画像を印刷するようにしたので、テレビ番組の最初から最後まで見ることなく、必要な画像のみを適宜得ることができる。

【図面の簡単な説明】

【図1】本発明に係るビデオプリンタの一実施例の使用状態を示す斜視図である。

【図2】同実施例のビデオプリンタのブロック図である。

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【図 3】 同実施例のビデオプリンタの自動印刷処理のフローチャートである。

【図 4】 従来のビデオプリンタのブロック図である。

【符号の説明】

5 フレームメモリ

6 メモリコントロールCPU

\* 7 メカニズム部 (印刷手段)

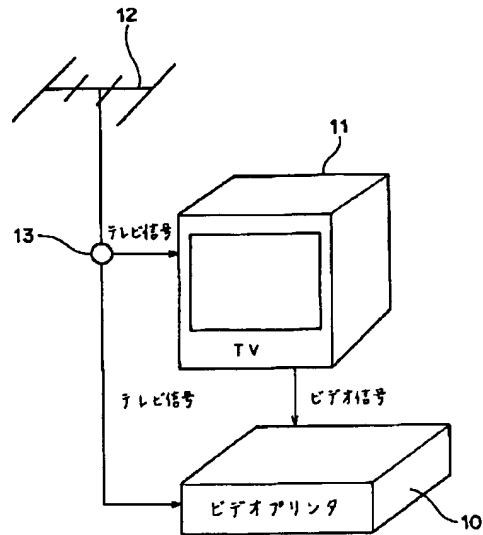
8 メカニズムコントロールCPU

15 インデックス検波器 (インデックスコード抽出手段)

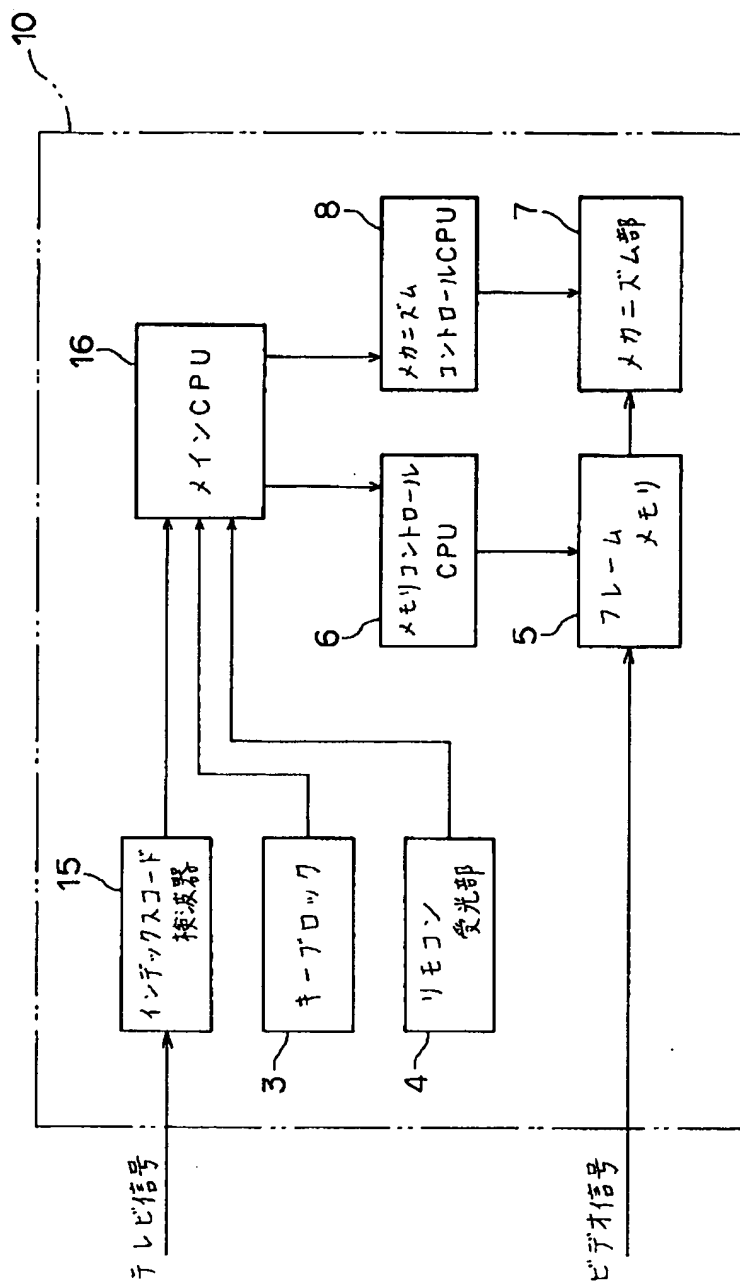
16 メインCPU (制御手段)

\*

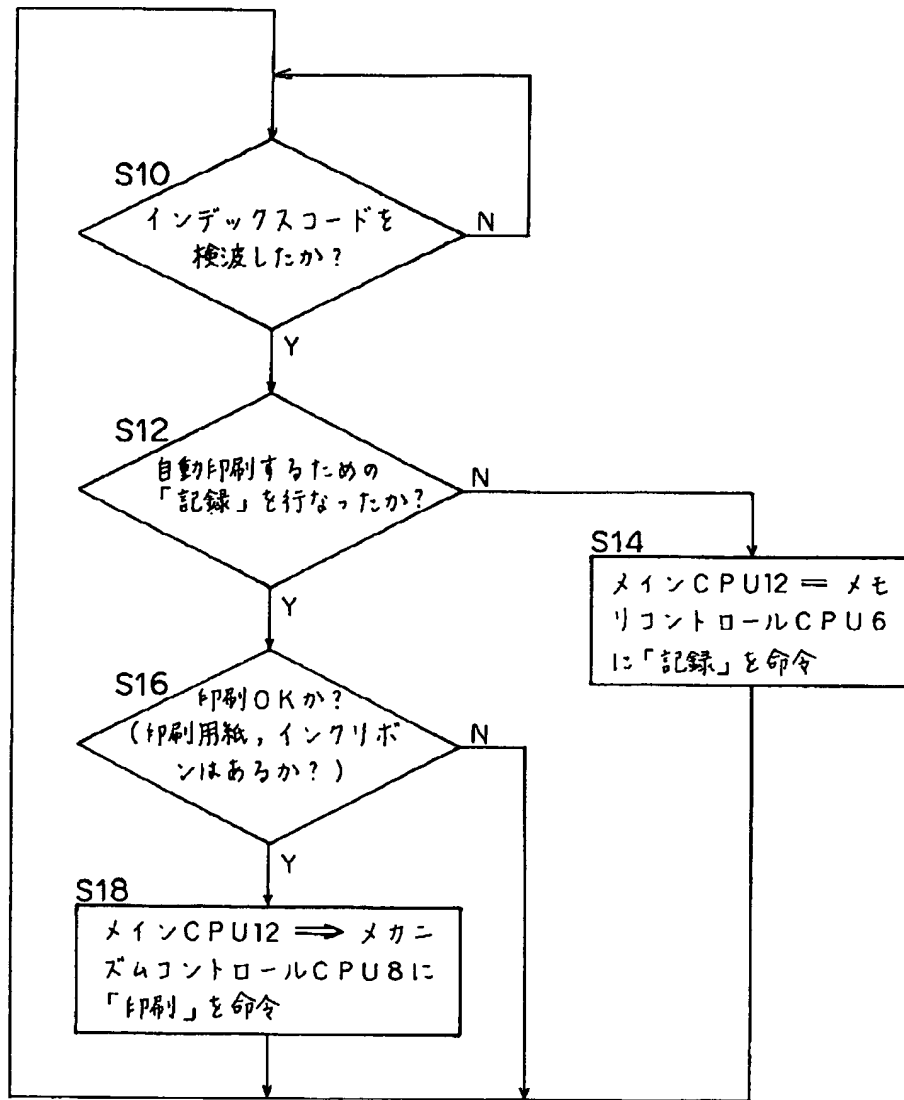
【図 1】



【図2】



【図3】



【図4】

